

the scapula, in view of the fact that such a lesion has never before been authoritatively reported, and that the confirmation of dissection, without which a positive diagnosis is hardly possible, was absent, the case can hardly be regarded as an undoubted fracture of the anatomical neck of the scapula.—*Jour. Am. Med. Assn.* Feb. 5, 1887.

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III. On the Treatment of Old Transverse Fracture of the Patella. By Prof. E. VON BERGMANN (Berlin). The statistical reports of some operators, giving their results in the treatment of fresh fractures of the patella by uniting the fragments with sutures, great reliance being placed on antiseptic precautions, are not wholly satisfactory.

Of 45 cases reported by Brunner in 1886, only 18 recovered without fever. In 8 cases dangerous purulent inflammation of the joint resulted, necessitating in two of them amputation of the thigh, of which one ended fatally. Kuland (1884) reported six deaths resulting from this operation. Hamilton has sufficiently demonstrated, however, that osseous union of the fractured patella is not necessary for the restoration of its function. This author has reported cases where a considerable space lay between the ends of the broken patella, which were held together by fibrous tissue, and where the necessary movements of the leg were not interfered with. In one case this diastasis measured 3 inches. If osseous union is, therefore, not always necessary, it is questionable whether in all cases of fresh fractures, the suture should be recommended, especially since the introduction of puncture of the hæmarthron and massage of the rapidly atrophying quadriceps. In many cases the hæmorrhage into the joint is very great, so that the capsule is much distended and prevents the adaptation of the ends of the fractured patella. Author removed in 3 cases of this kind, after Schede's method, the hæmarthron with a trocar, attaining in all 3 cases complete union.

The condition of the quadriceps is of the greatest importance for the prognosis in all cases of fractured patella. It is well known how easily this muscle atrophies and becomes insufficient when injured. Careful

and repeated observations have sufficiently well established the fact that the large majority of transverse fractures of the patella, are caused by severe over-exertion and strain on the quadriceps. This may produce considerable injury to the muscle by the tearing of fibres, blood-vessels, etc., the damage done being sufficient to cause its deterioration and atrophy. To this must be added the rest and non-usage necessary for union of the patella. Author believes that such a condition of the quadriceps interferes with full extension of the leg, in more cases than incomplete consolidation of the fractured patella. He attributes the good results reported by Tilanus, in the treatment of such fractures, to be greatly due to the early employment of massage.

The patient is kept in bed, the injured leg elevated and the knee wrapped in an elastic bandage. The latter is removed once in every twelve hours and the thigh kneaded with one hand, whilst with the other the portions of the patella are held together. This procedure should last about ten minutes. Massage should be followed by passive and active movements, in short excursions. After some eight days have elapsed the patient should get up and walk. Six of Tilanus' patients could walk very well in fourteen days. The distance between the fragments became smaller every day in spite of the movements in walking, and the flexion carried out methodically. Rapid union and early employment of motion, are the best means against shrinkage of the capsule, which leads finally to ankylosis. In contrast to cases of old and repeated fractures of the patella, such as Larger demonstrated to the first Congress of French Surgeons where, in spite of non-union of the bone and a considerable diastasis of the fragments, the functions of the limb were quite normal, there are very many cases where these latter are not possible, owing either to displacement or non-union of the fragments, etc. These patients cannot walk without the help of crutches. It is desirable to attempt freshening up and uniting of the fragments, in order to restore to the leg its proper functions. Brunner operated in 45 cases of this kind, in most of which the operation was undertaken after the lapse of a few months. In but 5 of them had a year elapsed since the injury. The results were not satisfactory. Purulent inflammation of the joint took place in 11, necessitating in one amputation of the

thigh; three patients died from pyæmia. Seven of the number recovered with ankylosis, 17 with limited functional power, and 9 with great loss of this. Only 7 recovered full normal mobility of the knee.

If the cases of ulceration, inflammation and febrile reaction are excepted, the chief cause for these poor results is the difficulty in keeping the widely separated fragments together.

The author reports following case, showing his proposed method of treating such cases, by which he believes firm union of the adapted fragments of the patella and maintenance of the extension movements, may be secured:

Patient, a sailor, strong and healthy, æt. 22 years, fell from a mast whilst at sea, fracturing the lower jaw, right thigh and right patella. Patient did not come under medical treatment until some six weeks later. Right leg was then 8 ctm. shorter than the left, the fault lying in the femur, the portions of which had united at an angle in about its middle, the concavity of this angle being on the posterior side. The fragments of the patella, which was fractured transversely, had not united, but were separated from each other by a space the width of the hand. Flexion of the knee-joint was possible to several degrees, but not to a right angle. Extension was not possible at all. It was decided to first rectify the defect in the femur. Incision anteriorly exposing the bone at the point of fracture; callus chiseled off and the ends of the fractured bone brought together. Plaster of Paris bandage worn for fourteen days, followed by extension bandage. About two weeks later wound had entirely healed and union of the bone ends had taken place. Four weeks afterwards the operation to correct the defect in the patella was made. Incision transversely over the knee. The ends of the patella freshened up (by means of a fine saw). Attempts to bring them together, however, failed. A second incision was then made a distance below the first, just below the tuberosity, down on to the tibia. The muscles at that place were pushed aside, the tuberosity chiseled off in an upward direction, so that this portion of bone had a triangular shape with its base upwards, and was attached solely by the skin-covering above it, and the tissues on the es. This triangle of bone, together with the ligamentum patellæ and

the lower fragment of the latter could be easily drawn upwards, allowing the adaptation of the fragments. Catgut sutures were employed to hold them together. The upper wound was carefully closed, the lower one left open and plugged with iodoform gauze. Antiseptic dressings were applied over all. Dressings removed six days later. Upper wound healed. In five weeks firm union of the fragments was accomplished, the patient making his first attempt to walk a week later. Energetic massage of the muscles of the thigh was carried out from that time on, and active and passive movements of the knee-joint.

After a month of this treatment, patient discharged. Patient cannot bend the knee to a right angle, but is able to extend it with great strength, almost entirely. The portions of the patella are firmly united evidently by osseous tissue, as is also the tuberosity of the tibia, which was displaced upwards.

Author recommends this method of chiseling off the tuberosity of the tibia in order to bring the ends of the patella together, in cases of old fractures, instead of dividing the tendon of the quadriceps. He does not consider it probable that non-union or necrosis of the chiselled off tuberosity is likely to occur. He advises, furthermore, the puncture of the cavity of the joint, when this is filled with blood, and the early employment of massage of the flexors of the lower leg. —*Deutsch. Med. Wochensh.* No. 1. Jan. 6, 1887.

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IV. On Neuropathic Joint Affections. By Prof. CZERNY (Heidelberg). The type of arthropathy in ataxics so clearly portrayed by Charcot was attributed by him to tropho-neurotic disturbances. Mitchell, Charcot, Westphal and others have called attention to the frequency of spontaneous fractures in ataxics. Since the fractures and the joint troubles occur frequently in conjunction, both are doubtless to be ascribed to the same cause. Some authors have found pronounced softening and atrophy of the bone, others not; however, thorough exact investigations on this point are wanting. Ataxics having lost the muscular sense and hence the finer regulation of resistance to external force in considerable portions of the body, single bones might be